

METHOD AND APPARATUS FOR USING ATRIAL DISCRIMINATION ALGORITHMS TO DETERMINE OPTIMAL PACING THERAPY AND THERAPY TIMING

ABSTRACT OF THE DISCLOSURE

5 A system and method which employs atrial discrimination algorithms
to distinguish between different atrial arrhythmias occurring in a patient for
selecting an optimal pacing therapy corresponding to the type of arrhythmia
identified. The invention may be implemented in a bradycardia pacemaker or other
implantable cardiac device. In response to the detection of an atrial rate above the
10 atrial tracking rate, discrimination criteria are applied to a detected atrial activity
signal to distinguish between different types of supraventricular tachycardia, such as
fast atrial flutter and other atrial flutter at a relatively slower rate, which may be
occurring in the patient. The discrimination criteria may be, for example, rate-
based or morphology based. The pacer is controlled to provide pacing therapy to a
15 heart in a manner corresponding to the type of supraventricular tachycardia
identified. For example, antitachycardia pacing may be provided to the heart in
response to the detection of a relatively lower rate supraventricular
tachycardia/other atrial flutter, whereas another pacing control, e.g., ventricular
pacing, such as ventricular rate regulation or Rate Smoothing, may be applied if a
20 more rapid rate supraventricular tachycardia/fast atrial flutter is identified. The
output of an atrial discrimination algorithm may be tracked and the trend thereof
used to improve therapy timing.

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